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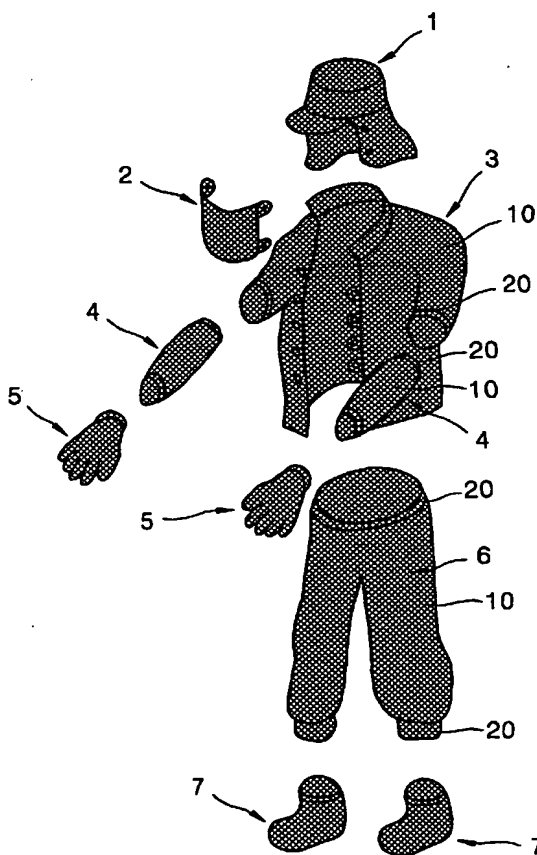
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- (71) Applicant and
(72) Inventor: SEO, Jung-Eun [KR/KR]; 11-704 Hyundai Apt., 56, Myoungil-dong, Kangdong-gu, Seoul 134-072 (KR).

[Continued on next page]

(54) Title: THE PROTECTION AGAINST A HARMFUL INSECT



(57) Abstract: Provided is protection gear against harmful insects that enables controlling and capturing of harmful insects in addition to protection against harmful insects. The protection gear against harmful insects includes a protection net made of ventilative cloth, woven fabric, or nonwoven fabric, the protection net being worn to cover the head, trunk, arms, hands, legs, and feet of the human body; and a fastener for fastening the protection net to the human body. Since the protection net is coated with an insecticide and/or a repellent, the effect of an insecticide and/or repellent lasts. Also, good durability is ensured since a washing is not required. Even if the sizes of ventilation holes of the protection net are larger than harmful insects, harmful insects can be dissuaded from settling on it. Furthermore, due to comfortable wearability, it can be used as a substitute for pajamas outdoors. Still furthermore, since the adhesive net is inexpensive and disposable, the protection gear against harmful insects can capture harmful insects, while maintaining a lasting insecticide and/or repellent effect.

WO 2004/021814 A1



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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

THE PROTECTION AGAINST A HARMFUL INSECT

Technical Field

The present invention relates to protection gear against harmful
5 insects, and more particularly, to protection gear against harmful insects
that enables controlling and capturing of harmful insects in addition to
protection against harmful insects.

Background Art

10 Generally, many efforts and attempts, such as the use of a
mosquito net or an insecticide, have been made to protect human bodies
from harmful insects, such as mosquitoes and flies.

In particular, persons who are mainly outdoors for work or who
summer in the open air are likely to be harmed by harmful insects, such
15 as mosquitoes, that transmit fatal infectious diseases and induce skin
itching.

Conventionally, an insecticide spray is used for controlling flies,
mosquitoes, and ticks. In particular, for outdoors activities, an
insecticide or a repellent, a substance that gives off an offensive odor to
20 dissuade mosquitoes or ticks from settling on human bodies, is applied
on clothes or human bodies.

However, there are great inconveniences in using such an
insecticide or repellent as follows: the effect of an insecticide or repellent
is not continuous, contact with the skin may cause skin troubles, thereby
25 adversely affecting user's health, and spraying or rubbing completely
over human bodies is practically impossible.

Disclosure of the Invention

The present invention provides protection gear against harmful
30 insects. Due to the use of a protection net coated with an insecticide

and/or a repellent, an insecticide and/or repellent effect lasts. Also, good durability is ensured since a washing is not required. Even if the sizes of the ventilation holes in the protection net are larger than harmful insects, the harmful insects are dissuaded from settling on it. In
5 addition, due to comfortable wearability, it can be used as a substitute for pajamas outdoors.

The present invention also provides protection gear against harmful insects which can capture harmful insects, while maintaining a lasting excellent insecticide or repellent effect, due to the use of an
10 inexpensive, disposable adhesive net.

According to an aspect of the present invention, there is provided protection gear against harmful insects comprising: a protection net made of ventilative cloth, woven fabric, or nonwoven fabric, the protection net being worn to cover the head, trunk, arms, hands, legs,
15 and feet of the human body; and a fastener for fastening the protection net to the human body.

The protection net may comprise an insecticide cap for covering the head, an insecticide mask for covering the face, an insecticide upper garment for covering the trunk, insecticide sleeves for covering the arms,
20 wristlets, insecticide gloves for covering the hands, insecticide trousers for covering the legs, insecticide anklets for covering the ankles, and insecticide shoes, socks, or stockings for covering the feet or shoes. The protection net may be made in the form of mosquito net clothes, clothes of ramie cloth, clothes of hemp cloth, shoulder strap, waistcoat,
25 overskirt with slits, belt, or wrist strap. The fastener may be a string, an elastic band, a button, or a velcro tape.

The protection net may be comprised of a frame made of a flexible elastic band having an elasticity sufficient to be separated from the human body by a predetermined distance; and an adhesive net
30 adhered to the frame, the adhesive net being made into a close net form

sufficient for ventilation and prevention of the invasion of harmful insects including flies, mosquitoes, ants, ticks, and fleas, and being treated with an insecticide and/or a repellent. The adhesive net may be a disposable adhesive net having one adhesive surface so that while it adheres to a base paper, it adheres to the frame after being removed from the base paper when used.

A surface of yarn or cloth for the protection net may be coated with an insecticide and/or a repellent using a binder to be used for a long time without being washed, for example, when a military serviceman wears the protection net over his uniform.

Brief Description of the Drawings

FIG. 1 is a perspective view of protection gear against harmful insects according to an embodiment of the present invention;

FIG. 2 is a perspective view of protection gear against harmful insects according to another embodiment of the present invention; and

FIG. 3 is a detailed exploded perspective view of an insecticide sleeve shown in FIG. 2.

Best mode for carrying out the Invention

Hereinafter, protection gear against harmful insects according to an embodiment of the present invention will be described in detail with reference to the accompanying drawings.

First, referring to FIG. 1, protection gear against harmful insects according to an embodiment of the present invention is largely comprised of a protection net 10 and a fastener 20.

In detail, the protection net 10 is worn to cover the head, trunk, arms, hands, legs, and feet of the human body and is made of ventilative cloth, woven fabric, or nonwoven fabric. The protection net 10 comprises an insecticide cap 1 for covering the head, an insecticide

mask 2 for covering the face, an insecticide upper garment 3 for covering the trunk, insecticide sleeves 4 for covering the arms, insecticide gloves 5 for covering the hands, insecticide trousers 6 for covering the legs, and insecticide shoes, shocks, or stockings 7 for covering the feet or shoes.

5 Although not shown in the drawings, the protection net 10 may be made in the form of a mantle with a cap, wristlets, insecticide anklets for covering the ankles, a shoulder strap, a waistcoat, an overskirt with slits, belt, or a wrist strap.

10 In addition, the protection net 10 may be made of mosquito net cloth, ramie cloth, hemp cloth, cut cloth, or nonwoven fabric. The protection net 10 may also be made in a partial band form.

15 The fastener 20 is used to fasten the protection net 10 to the human body. The fastener 20 may be a string, an elastic band, a button, or a velcro tape. An elastic band capable of making an end of the protection net 10 narrow and then fastening it to the human body is preferable, as shown in FIG. 1.

20 In particular, a surface of yarn or cloth for the protection net 10 is coated with an insecticide and/or a repellent using a binder. An insecticide and/or a repellent may be coated on both surfaces or one surface of yarn or cloth for the protection net 10. In this case, it is preferable to use an insecticide and/or a repellent harmless to the human body. An insecticide or a repellent may be coated directly or may be coated after encapsulated.

25 An insecticide for killing harmful insects and a repellent giving off an offensive odor are widely disclosed in related art and commercially available, and thus, the detailed description thereof will be omitted herein.

30 Various conventional types of binders can be used for coating an insecticide and/or a repellent on the protection net 10. Therefore, various modifications or changes in an insecticide, a repellent, and a binder that can be used herein may be made by those of ordinary skill in

the art without departing from the spirit and scope of the present invention.

When a user wears the protection net 10, an insecticide and/or repellent coated on the protection net 10 can dissuade mosquitoes from settling on the user's body. The effect of an insecticide and/or repellent can last longer since the protection net 10 does not need to be washed.

Therefore, in a case where a field worker or a military serviceman wears the protection net 10 over his uniform, the protection net 10 can be used for an extended period of time without being washed.

Even if the sizes of the ventilation holes in the protection net 10 are larger than mosquitoes, mosquitoes are dissuaded from settling on the protection net 10 due to an insecticide and/or a repellent coated on the protection net 10. Also, the protection net 10 has comfortable wearability due to such large ventilation holes. Therefore, the protection net 10 allows adults or babies to sleep or live comfortable in a room and outdoors.

Meanwhile, referring to FIGS. 2 and 3, the protection net 10 is comprised of a frame 11 made of a flexible elastic band having elasticity sufficient to be separated from the human body by a predetermined distance; and an adhesive net 12 adhered to the frame 11, the adhesive net 12 being made into a close net form sufficient for ventilation and prevention of the invasion of harmful insects, such as flies, mosquitoes, ants, ticks, and fleas.

In detail, as shown in FIG. 3, the adhesive net 12 may be a disposable adhesive net having one adhesive surface so that while it adheres to a base paper 13, it adheres to the frame 11 after being removed from the base paper 13 when used.

On the other hand, the other surface of the adhesive net 12 that is exposed is sticky so that harmful insects can be captured. The sticky surface of the adhesive net 12 may contain an attractant and/or an

insecticide and/or a repellent.

Therefore, a user can protect his body from mosquitoes by removing the adhesive net 12 from the base paper 13 and then adhering the adhesive net 12 to the frame 11 to cover the frame 11, as shown in
5 FIG. 3. Even if the human body is not completely covered by the adhesive net 12, an insecticide and/or repellent contained in the adhesive net 12 can dissuade mosquitoes from settling on the human body. Further, mosquitoes settled on the human body by an attractant can be captured on the sticky surface of the adhesive net 12.

10 Since the adhesive net 12 is inexpensive and disposable, the protection net 10 can lastingly maintain the effect of an insecticide and/or repellent.

The present invention is not limited to the above exemplary embodiments thereof. Therefore, those of ordinary skill in the art may
15 make various changes without departing from the spirit and scope of the present invention.

For example, although the above embodiments of the present invention are explained with regard to mosquitoes, various other harmful insects such as ants, bees, and flies can be controlled, combatted, or
20 captured. Also, protection gear against harmful insects of the present invention can be applied to a combat uniform worn by a military serviceman for a plain battle, a military uniform such as a guard uniform worn by a guard, and clothes worn by a person living outdoors.

The scope of the present invention is not limited to the above
25 detailed description, but is defined by the following claims.

Industrial Applicability

As apparent from the above description, the present invention provides protection gear against harmful insects. Due to the use of a
30 protection net coated with an insecticide and/or repellent, the effect of an

insecticide and/or repellent lasts. Also, good durability is ensured since washing is not required. Even if the sizes of the ventilation holes in the protection net are larger than harmful insects, the harmful insects are dissuaded from settling on it. Furthermore, due to comfortable
5 wearability, it can be used as a substitute for pajamas outdoors. Still furthermore, the protection gear against harmful insects can capture harmful insects, while maintaining a lasting insecticide and/or repellent effect, due to the use of an inexpensive, disposable adhesive net.

What is claimed is:

1. Protection gear against harmful insects comprising:
a protection net made of ventilative cloth, woven fabric, or nonwoven fabric, the protection net being worn to cover the head, trunk,
5 arms, hands, legs, and feet of the human body; and
a fastener for fastening the protection net to the human body.
2. The protection gear against harmful insects according to claim 1, wherein the protection net comprises an insecticide cap for
10 covering the head, an insecticide mask for covering the face, an insecticide upper garment for covering the trunk, a mantle with a cap, insecticide sleeves for covering the arms, wristlets, insecticide gloves for covering the hands, insecticide trousers for covering the legs, insecticide
15 anklets for covering the ankles, and insecticide shoes, socks, or stockings for covering the feet or shoes, and is made in the form of mosquito net clothes, clothes of ramie cloth, clothes of hemp cloth, shoulder strap, waistcoat, overskirt with slits, belt, or wrist strap, and
the fastener is a string, an elastic band, a button, or a velcro tape.
- 20 3. The protection gear against harmful insects according to claim 1, wherein the protection net is comprised of a frame made of a flexible elastic band having elasticity sufficient to be separated from the human body by a predetermined distance; and an adhesive net adhered
25 to the frame, the adhesive net being made into a close net form sufficient for ventilation and prevention of the invasion of harmful insects including flies, mosquitoes, ants, ticks, and fleas, and being treated with an insecticide and/or repellent.
4. The protection gear against harmful insects according to
30 claim 3, wherein the adhesive net is a disposable adhesive net having

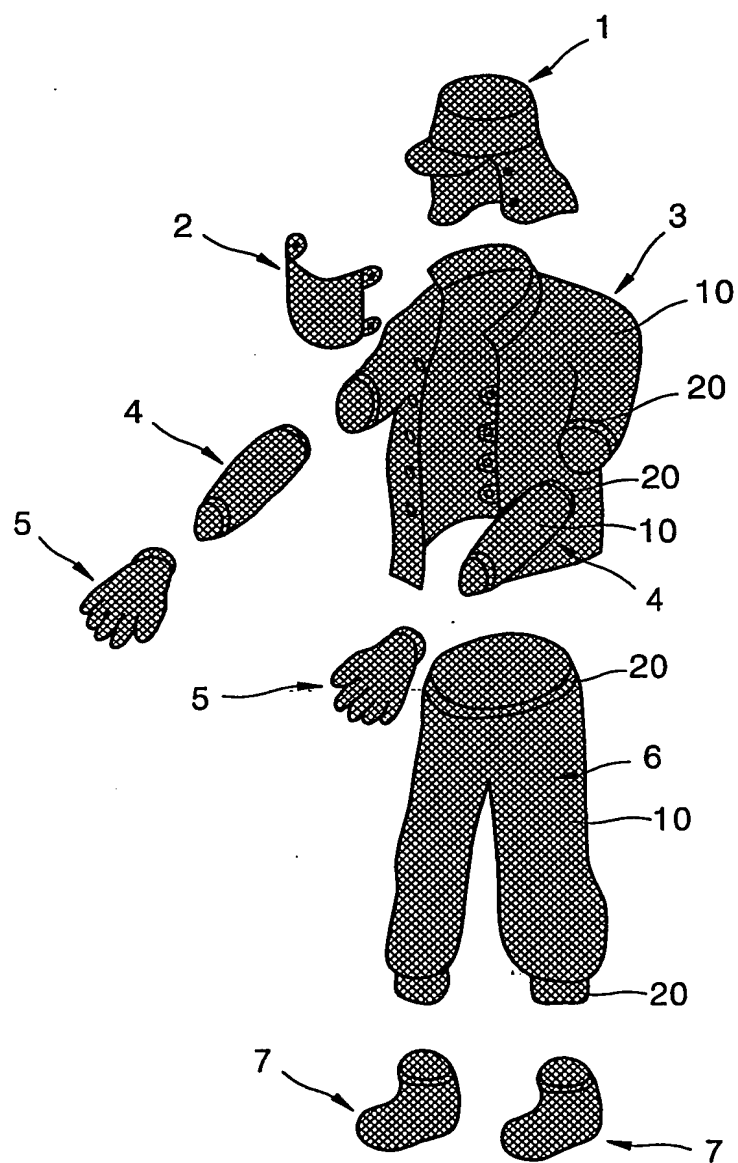
one adhesive surface so that while it adheres to a base paper, it adheres to the frame after being removed from the base paper when used.

5 5. The protection gear against harmful insects according to claim 4, wherein the other surface of the protection net that is exposed is sticky so that harmful insects can be captured, and the sticky surface contains an attractant and/or an insecticide and/or a repellent.

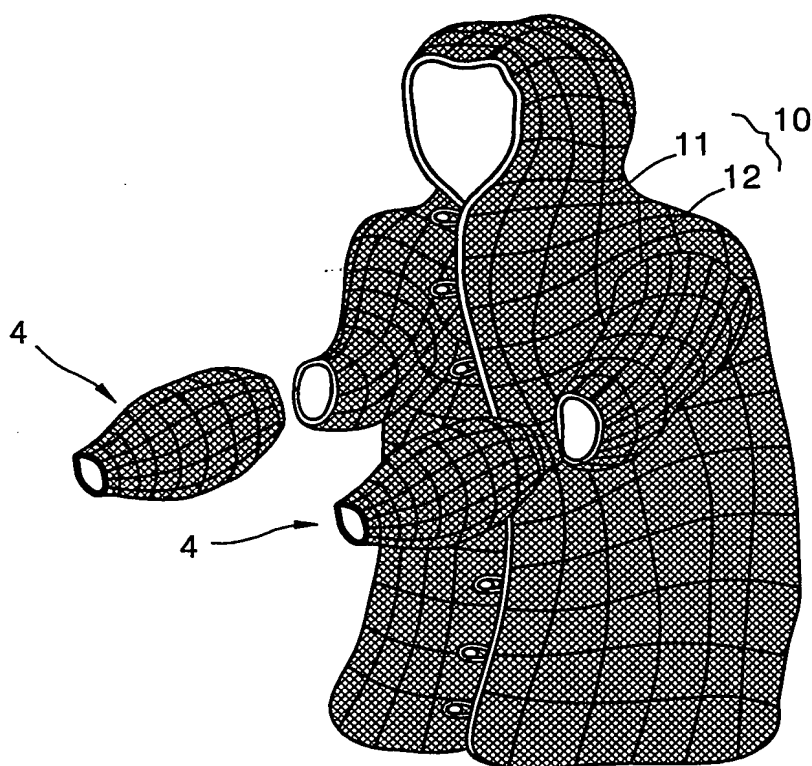
10 6. The protection gear against harmful insects according to claim 1, wherein both surfaces or one surface of the protection net are/is coated with an insecticide and/or a repellent using a binder, and the insecticide and/or repellent is coated directly or is coated after encapsulated.

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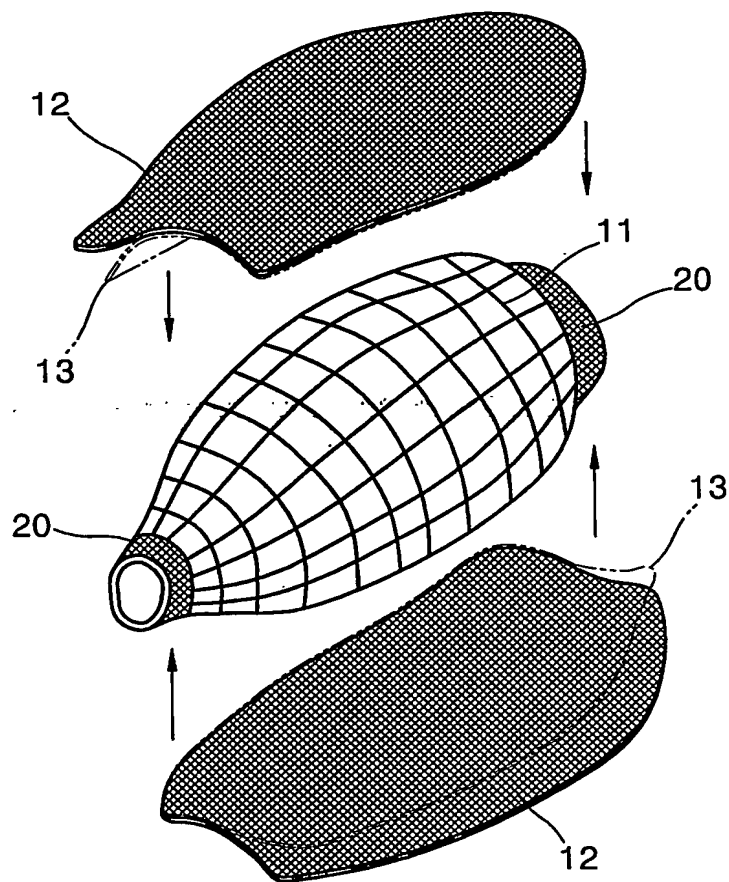
1/3
FIG. 1



2/3
FIG. 2



3/3
FIG. 3



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR03/01830

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 A41D 13/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A41D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

KR : IPC as above

JP : IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,091,993 A (JANICE L, MERRILL) 03 MARCH, 1992 (03.03.1992) see the whole document	1, 3, 5
A	JP 10-96108 A (SUE YASU CHIMARO) 14 APRIL, 1998 (14. 04. 1998) see the whole document	1, 3, 5
A	KR 20-0264328 Y1 (CHANG, KU SECK) 19 FEBRUARY, 2002 (19. 02. 2002) see the whole document	1, 3, 5

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

PARK, Young Joon

Telephone No. 82-42-481-5618

